



PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

BRYAN, VINCENT, et al.

Appln. No. 08/944,234

Group Art Unit: 3731

Examiner: L. Ngo

Filed: October 6, 1997

For: DRILL HEAD FOR USE IN PLACING A VERTEBRAL BODY DISC DEVICE

**PETITION UNDER 37 CFR § 1.181(a) TO REQUEST WITHDRAW OF HOLDING
OF ABANDONMENT**

BOX DAC

Commissioner for Patents
Washington, D.C. 20231

Sir:

The undersigned, on behalf of Applicants, petitions the Commissioner to withdraw a holding of abandonment of the above identified application. The application was abandoned for allegedly failing to timely file a proper reply to the Office letter mailed on July 5, 2000.

Submitted herewith are copies of the following documents:

- ✓ 1. Copy of the Notice of Appeal with PTO date stamped filing receipt thereon showing receipt by the PTO on December 21, 2000;
- ✓ 2. Copy of Revocation and Appointment of Attorney with filing receipt of July 3, 2001;
3. Petition for an Extension of Time (5 months) filed July 5, 2001;
4. Continuation Prosecution Application filed July 5, 2001;
5. Preliminary Amendment filed July 5, 2001;
6. Request for an Interference with a Patent under 37 C.F.R. § 1.607 filed July 5, 2001;
7. U.S. Patent No. 6,083,228 (Michelson) filed July 5, 2001;
8. A date stamped filing receipt of July 5, 2001, indicating receipt by the PTO of Documents 3-7;
9. The Notice of Abandonment dated July 3, 2001.

DAC #
#34
Alvins
RECEIVED
AUG 13 2001
AUG 16 2001
TECHNOLOGY CENTER 43700
FIS OF EDITIONS
E
D

PETITION UNDER 37 CFR § 1.181(a) TO
REQUEST WITHDRAW OF HOLDING OF ABANDONMENT
USSN 08/944,234
page 2

Applicants submit the following in support of the request:

A notice of appeal was received by the PTO on December 21, 2000 (Document 1). The date stamped is the date which is entered on the PTO records and the date from which any subsequent periods are calculated. See 37 C.F.R. §1.8 and MPEP §512.

From Documents 1-8 it is clear that this firm, representing Applicants, timely filed, on July 5, 2001, a Continuation Prosecution Application together with a Petition for an Extension of Time (5 months) along with Documents 5-7. Authorization was given to charge all of the required fees to Deposit Account 19-4880.

In view of the above it is respectfully submitted that the application should not have been abandoned and the Commissioner is requested to withdraw the holding of abandonment and to enter and consider the CPA and related papers filed July 5, 2001.

If a statutory fee is required to grant this Petition, you are authorized to charge the petition fee of \$620 to Deposit Account No. 19-4880. You are also directed and authorized to charge or credit any difference or overpayment to said Account.

RECEIVED

AUG 15 2001

OFFICE OF PETITIONS

Respectfully submitted,

Kenneth J. Burchfiel
Lee C. Wright Reg. No. 41,441

Kenneth J. Burchfiel
Registration No. 31,333

SUGHRUE, MION, ZINN,
MACPEAK & SEAS, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, D.C. 20037-3213
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

Date: August 13, 2001

IN THE UNITED STATES PATENT & TRADEMARK OFFICE



In re application of Vincent BRYAN and Alex KUNZLER

Appln. No. 08/944,234

Group Art Unit: 3731

Examiner: L. Ngo

Filed: October 6, 1997

For: DRILL HEAD FOR USE IN PLACING A VERTEBRAL BODY DISC DEVICE

**REQUEST FOR AN INTERFERENCE WITH
A PATENT UNDER 37 C.F.R. §1.607**

Assistant Commissioner For Patents
Washington, D.C. 20231

FILED

JUL - 5 2001

Sir:

I. 37 C.F.R. §1.607(a)(1)

The patent is U.S. Patent No. 6,083,228 issued July 4, 2000, and naming Gary K. Michelson as the inventor.

II. 37 C.F.R. §1.607(a)(2)

Applicants propose the following count, which is in the format approved by the Commissioner in *Orikasa v. Oonishi*, 10 U.S.P.Q.2d 1999, 2003 (Comm'r Pat. & Tr. 1990), and *Davis v. Uke*, 27 U.S.P.Q. 2d 1180, 1188 (Comm'r Pat. & Tr. 1993):

Count 1:

Claim 1 or Claim 29 or Claim 63 of U.S. Patent No. 6,083,228 (Michelson)

OR

Claim 25 or Claim 41 or Claim 62

added by preliminary amendment to the present Bryan et al. CPA application.

Pursuant to the Commissioner's opinion in *Orikasa*, it is appropriate to use a count of this type where the recited claims are in different statutory classes so long as the subject matter recited in the various claims is not patentably distinct.

III. 37 C.F.R. §1.607(a)(3)

All 162 claims in the Michelson patent correspond to the proposed count.

IV. 37 C.F.R. §1.607(a)(4)

Claims 25-125 presented in the preliminary amendment submitted herewith in Applicant's present CPA application correspond to the proposed count.

V. 37 C.F.R. §1.607(a)(5)

The terms of the application claims identified as corresponding to the proposed count and not previously in the application are applied to the disclosure of the application as follows:

25. A device for preparing a space in a human spine to receive an insert between adjacent vertebral bodies, said device comprising:

page 4, lines 1-3

- (a) an elongated shaft portion;
- (b) a housing disposed at the distal end of said elongated shaft portion;
- (c) a drive means;
- (d) a drive source operably connected to said drive means; and
- (e) a form cutter mountable on said housing and movable by said drive means, wherein:
- (f) said form cutter has at least one milling surface selected to create a surface contour in one of the adjacent vertebral bodies as said form cutter is moved by said drive means.

Fig. 2: 40

Figs. 1, 2: 31

Fig. 2: 24

Fig. 2: 61

Fig. 2: 29
page 6, lines 11-13

Fig. 2: 42
page 5, lines 10-14

26. The device of claim 25, wherein said housing is fixedly connected to said elongated shaft

Fig. 2
Page 5, lines 8-9

portion.

27. The device of claim 25, wherein:

- (a) said housing includes a shaft support; and
- (b) said form cutter includes a form cutter shaft
configured to fit within said shaft support of said
housing.

Fig. 2: 37

Fig. 2: 51
Page 5, lines 19-21

28. The device of claim 25, wherein said at least one milling surface is configured such that it is operated in a plane generally parallel to the surface contour formed in one of the adjacent vertebral bodies as said form cutter is moved by said drive means.

Page 7, lines 3-6
Fig. 2;
Page 5, lines 5-7 and
USP 5,674,296, Figs. 2, 3
(incorporated by reference)

29. The device of claim 25, wherein said housing includes:

- (a) an upstanding wall;
- (b) a shaft support; and
- (c) a ^{new M} slot configured through said upstanding wall through which said drive means is operatively coupled to said form cutter.

Fig. 2: 35

Fig. 2: 37

Fig. 2
Page 6, lines 11-15;
Fig. 3
Page 7, lines 13-18

30. The device of claim 25 including drive means that operatively couples said form cutter to said drive source.

Fig. 2: 24
Page 6, lines 19-20

31. The device of claim 30, wherein:

- (a) said drive means comprises a drive shaft having a proximal end and a distal end;
- (b) said drive shaft is adapted to be received in

Fig. 2: 54

Fig. 2

said elongated shaft portion;

(c) the distal end of said drive shaft is operatively coupled to said form cutter to move said form cutter; and

(d) the proximal end of said drive shaft is operatively coupled to said drive source.

Page 5, lines 8-10

Fig. 2
Page 6, lines 11-18

Fig. 2
Page 6, lines 11-13

32. The device of claim 25, wherein said drive means is disposed at least in part in said elongated shaft portion.

Fig. 2
Page 5, lines 8-10

33. The device of claim 25, wherein:

(a) the device includes a drive shaft disposed within said elongated shaft portion;

(b) said drive shaft is rotatably driven by said drive source;

(c) said drive shaft has a gear at its distal end; and

(d) said gear is configured to mate with corresponding teeth on said form cutter.

Fig. 2: 54, 40;
Page 5, lines 8-10

Page 5, lines 11-13, 16-18

Fig 2: 59

?
Fig. 2: 57 & 59
Page 6, lines 13-18

34. The device of claim 33, wherein:

(a) said form cutter includes at least one top milling surface and a bottom surface;

(b) said bottom surface is provided with a beveled gearing surface;

(c) said beveled gearing surface engages teeth on said gear; and

(d) said gear and said beveled gearing surface cooperate to rotate said form cutter as said drive shaft is rotatably driven.

Fig. 2: 42, 47

Fig. 2: 47, 49
Page 6, lines 15-16

Fig. 2: 49, 59
Page 6, lines 16-18

Fig. 2
Page 6, lines 16-18

35. The device of claim 25, wherein said form cutter is driven in rotary motion by said drive means.

Page 6, lines 16-18

36. The device of claim 25, wherein said form cutter comprises at least two milling surfaces for simultaneously creating at least two predetermined surface contours on an end plate of one of the adjacent vertebral bodies.

Fig. 2: 42, 44
Page 5, lines 10-16

37. The device of claim 25, wherein:

(a) said housing includes a smooth surface formed on a side of said housing opposite said milling surface; and

Fig. 2

(b) said smooth surface is configured to allow a surgeon to increase the pressure of said milling surface against the one of the adjacent vertebral bodies.

Fig. 2

38. The device of claim 25, wherein said form cutter includes a leading edge configured as a bone cutting surface.

Fig. 2: 44

39. The device of claim 36, wherein at least one of said at least two milling surfaces of said form is convex.

Fig. 2: 42
page 5, lines 10-14

40. The device of claim 36, wherein at least one of said at least two milling surfaces of said form cutter is tapered outwardly from a front surface of said form cutter.

Fig. 2: 44
Page 5, line 15

41. A form cutter for preparing a space between adjacent vertebral bodies to receive an insert, said form cutter having:

Page 4, lines 10-12

(a) at least one milling surface and being mountable on a device capable of moving said form cutter to cause said at least one milling surface to create at least one surface having a predetermined contour in an end plate of at least one of the adjacent vertebral bodies,

Figs. 1 & 2

(b) said at least one milling surface having a width selected to substantially match the overall width of the insert to be received between the adjacent vertebral bodies,

Page 5, lines 10-14
U.S. Patent 5,674,296,
incorporated by reference

(c) said at least one milling surface being configured and oriented such that it is generally parallel to the surface having a predetermined contour created in the end plate of the adjacent vertebral body when in use.

Page 7, lines 3-6
Page 5, lines 5-7
U.S. Patent 5,674,296,
incorporated by reference
Figs. 2, 3

42. The form cutter of claim 41, wherein said form cutter has a top surface and a bottom surface.

Fig. 2: 29, 47

43. The form cutter of claim 42, wherein at least one of said top surface and said bottom surface is a milling surface.

Fig. 2: 22

44. The form cutter of claim 41, wherein said form cutter has a leading edge configured to cut into the vertebral body as said form cutter is inserted into the spine.

Fig. 2: 44

45. The form cutter of claim 42, wherein at least one of said top surface and said bottom surface of said form cutter comprises a convex surface.

Fig. 2: 42
page 5, lines 10-14

46. The form cutter of claim 42, wherein at least one area of said top surface and said bottom surface of said form cutter is tapered outwardly from the front surface of said form cutter.

Fig. 2: 44
Page 5, line 15

47. A device for preparing a space in a human spine across a disc space and into the end plates of adjacent vertebral bodies to receive an interbody spinal insert, said device comprising:

Page 4, lines 1-3

- (a) an elongated shaft portion;
 - (b) a housing disposed at the distal end of said elongated shaft portion;
 - (c) a drive means;
 - (d) a drive source for powering said drive means;
 - (e) a form cutter mountable on said housing; and
 - (f) a coupling means for connecting and imparting motion from said drive means to said form cutter,
- wherein:

Fig. 2: 40

Figs. 1, 2: 31

Fig. 2: 24

Fig. 2: 61

Fig. 2: 29
Page 6, lines 11-13

Fig. 2: 63, 54, 59

- (g) said form cutter has at least one broad milling surface selected to remove bone from and create a predetermined surface contour in at least one of the end plates of the adjacent vertebral bodies as said form cutter is moved by said drive

Fig. 2: 42, 44
Page 4, lines 10-13
Page 5, lines 10-14

means; and

(h) said milling surface is configured to substantially match in width and contour a surface of the interbody spinal insert and the predetermined surface contour in at least one of the end plates of the adjacent vertebral bodies.

Page 5, lines 10-14

Page 7, lines 3-6

48. The device of claim 47, wherein:

(a) said drive means moves said form cutter in a plane generally parallel to the predetermined surface contour to be formed in at least one of the end plates of the adjacent vertebral bodies; and

Page 7, lines 3-6

Fig. 2;

Page 5, lines 5-7 and

USP 5,674,296, Figs. 2, 3
(incorporated by reference)

(b) the movement of said form cutter is rotary.

Fig. 2

Page 6, lines 16-18

49. A device for preparing a space to receive an interbody insert within and between the adjacent surfaces of vertebral bodies disposed adjacent a disc space, said device comprising:

Page 4, lines 1-3

(a) an elongated shaft containing at least a portion of a drive means;

Fig. 2: 40, 24

(b) a housing positioned at the distal end of said elongated shaft portion; and

Figs. 1 & 2: 31

(c) a form cutter disposed on said housing and operably connected to said drive means to be driven thereby,

Fig. 2: 24, 29

Page 6, lines 11-13

wherein:

(d) said form cutter has a milling surface;

Fig. 2: 42

(e) said milling surface has a width substantially the same as the width of the insert to be implanted;

Page 5, lines 10-14

U.S. Patent 5,674,296,
Incorporated by reference

(f) said milling surface has a configuration adapted to remove bone from the vertebral bodies to prepare the vertebral bodies to receive the insert; and

Page 5, lines 10-14

(g) said milling surface of said form cutter is configured to be generally parallel to a receiving surface that is formed on one of the vertebral bodies by said device.

Page 7, lines 3-6
Fig. 2;
Page 5, lines 5-7 and
USP 5,674,296, Figs. 2, 3
(incorporated by reference)

50. The device of claim 49, wherein said form cutter includes first and second outwardly facing milling surfaces.

Fig. 2: 42, 44
Page 5, lines 10-12, 15-16

51. The device of claim 49, wherein the width of said milling surface substantially matches the width of the nucleus pulposus of a disc space in which said milling surface is inserted.

USP 5,674,296, Figs. 1, 2, 3
(incorporated by reference)
col. 6, lines 40-46

52. The device of claim 49, wherein said form cutter has at least one milling surface having a convex configuration.

Fig. 2: 42
Page 5, lines 10-14

53. The device of claim 49, wherein:

(a) said form cutter includes outwardly facing first and second milling surfaces; and

Fig. 2: 42, 44
Page 5, lines 10-12, 15-16

(b) said outwardly facing first and second milling surfaces are inclined relative to one another.

Fig. 2: 42, 44
Page 5, lines 10-12, 15-16

54. The device of claim 50, wherein said outwardly facing first and second milling surfaces are inclined with respect to each other.

Fig. 2: 42, 44
Page 5, lines 10-12, 15-16

55. The device of claim 49, wherein said drive means is adapted to produce a rotary movement of said form cutter about an axis generally perpendicular to a longitudinal axis of said elongated shaft portion and a general plane of the vertebral end plate.

Page 7, lines 3-6
Fig. 2;
Page 5, lines 5-7 and
USP 5,674,296, Figs. 2, 3
(incorporated by reference)

56. The device of claim 49, wherein said drive means is powered by a drive source.

Fig. 2: 61
Fig. 3, motor 65
Page 6, line 19 to page 7, line 2

57. The device of claim 49, wherein said housing has a surface opposite said milling surface of said form cutter for bearing against the vertebral body on the opposite side of the disc space.

Figs. 1, 2, 3

58. The device of claim 57, wherein said bearing surface is smooth.

Figs. 1, 2, 3

59. The device of claim 49, wherein said device is sterilizable for use in surgery.

Page 5, lines 10-14
(Sterilization inherent in instrument for surgery)

60. The device of claim 49, wherein said form cutter is detachable from said housing.

Page 5, line 19 to page 6, line 2

61. The device of claim 49, including a rotatable drive shaft disposed within said elongated shaft portion, said rotatable drive shaft being operably connected to said drive means and to said

Fig. 2: 54, 40
Page 6, lines 11-18

form cutter.

62. A method for preparing the disc space between adjacent vertebrae of a human spine to receive an insert therebetween, said method being performed with a device having a movable form cutter with a milling surface that has a width substantially the same as the width of the insert to be implanted between the adjacent vertebrae, said method comprising the steps of:

Page 5, lines 10-14
U.S. Patent 5,674,296,
incorporated by reference

(a) activating the device to cause the milling surface to move;

Page 6, lines 16-18

(b) inserting the milling surface into the space between the adjacent vertebrae;

Page 6, lines 3-10

(c) contacting the milling surface of the form cutter against at least one of the adjacent vertebrae to remove bone from the end plate of the vertebra that lies adjacent the disc space to form a surface of that vertebra, the surface of that vertebra having a contour that substantially matches the contour of a surface of the insert to be implanted and that substantially matches the contour of the milling surface; and

Page 5, lines 10-15

(d) moving the milling surface of the form cutter in a rotary fashion relative to said device in a plane generally parallel to the surface contour to be formed in at least one of the adjacent vertebral bodies.

Page 6, lines 16-18
Page 7, lines 3-6
Fig. 2;
Page 5, lines 5-7 and
USP 5,674,296, Figs. 2, 3
(incorporated by reference)

63. The method of claim 62, wherein the form cutter includes first and second outwardly facing

Fig. 2: 42, 44
Page 5, lines 10-12, 15-16

milling surfaces.

64. The method of claim 63, wherein the device is not activated until after the milling surface has been inserted into the space between the adjacent vertebrae.

Page 6, lines 3-10
Insert shape formed by form cutter 29
as illustrated in U.S. Patent 5,674,296,
incorporated by reference
Figs. 1, 2

65. The method of claim 62, including the steps of:

- (a) measuring the width of the desired space to be formed between the adjacent vertebrae; and
- (b) selecting a form cutter and corresponding milling surface that matches the measured width.

U.S. Patent 5,674,296,
incorporated by reference
col. 6, lines 16-39
Page 5, lines 3-6

66. The method of claim 63, including the further steps of:

- (a) removing the milling surface from the disc space after completing the contacting step; and then
- (b) positioning an insert into the space created between the adjacent vertebrae.

Page 5, lines 10-14
(inherent to remove surgical instrument
following surgical procedure)
Page 5, lines 10-14

67. A device for preparing a space in the human spine to receive an insert between adjacent vertebral bodies, said device comprising:

page 4, lines 1-3

- (a) an elongated shaft portion;
- (b) a housing disposed at the distal end of said elongated shaft portion;
- (c) a drive means;
- (d) a drive source operably connected to said drive means;
- (e) a form cutter mountable on said housing

Fig. 2: 40

Figs. 1, 2: 31

Fig. 2: 24

Fig. 2: 61

Fig. 2: 29

and movable by said drive means;

page 6, lines 11-13

(f) said form cutter having at least one milling surface selected to create a predetermined surface contour in one of the adjacent vertebral bodies as said form cutter is moved by said drive means;

Fig. 2: 42
page 5, lines 10-14

(g) said drive means including a drive shaft disposed within said elongated shaft portion;

Fig 2: 54
Page 5, lines 5-10

(h) said drive shaft being rotatably driven by said drive means; and

Page 5, lines 11-13, 16-18

(i) said drive shaft being operably coupled to said form cutter.

Fig. 2: 24
Page 6, lines 19-20

68. The device of claim 67, wherein

(a) said form cutter includes first and second milling surfaces;

Fig. 2: 42, 44

(b) said drive shaft has a gear at its distal end

Fig. 2: 59

(c) said gear is configured to engage corresponding teeth on said form cutter;

Fig. 2: 57 & 59
Page 6, lines 13-18

(d) said gear and said teeth are configured such that said form cutter having said first and second milling surfaces is rotated as said drive shaft is rotated by said drive means.

Fig. 2
Page 6, lines 16-18

69. The device of claim 67, wherein said housing is fixedly connected to said elongated shaft portion.

Fig. 2
Page 5, lines 8-9

70. The device of claim 67, wherein:

(a) said housing includes a shaft support; and

Fig. 2: 37

(b) said form cutter includes a form cutter shaft configured to fit within said shaft support of said

Fig. 2: 51
Page 5, lines 19-21

housing.

71. The device of claim 67, wherein said at least one milling surface is configured such that it is operated in a plane generally parallel to the surface contour formed in one of the adjacent vertebral bodies as said form cutter is moved by said drive means.

Page 7, lines 3-6
Fig. 2;
Page 5, lines 5-7 and
USP 5,674,296, Figs. 2, 3
(incorporated by reference)

72. The device of claim 67, wherein said housing includes:

- (a) an upstanding wall;
- (b) a shaft support; and
- (c) a slot configured through said upstanding wall through which said drive means is operatively coupled to said form cutter.

Fig. 2: 35
Fig. 2: 37
Fig. 2
Page 6, lines 11-15;
Fig. 3
Page 7, lines 13-18

73. The device of claim 67 including drive means that operatively couples said form cutter to said drive source.

Fig. 2: 24
Page 6, lines 19-20

74. The device of claim 73, wherein:

- (a) said drive means comprises a drive shaft having a proximal end and a distal end;
- (b) said drive shaft is adapted to be received in said elongated shaft portion;
- (c) the distal end of said drive shaft is operatively coupled to said form cutter to move said form cutter; and
- (d) the proximal end of said drive shaft is

Fig. 2: 54

Fig. 2
Page 5, lines 8-10

Fig. 2
Page 6, lines 11-18

Fig. 2

operatively coupled to said drive source.

Page 6, lines 11-13

75. The device of claim 67, wherein said drive means is disposed at least in part in said elongated shaft portion.

Fig. 2
Page 5, lines 8-10

76. The device of claim 67, wherein said form cutter is driven in rotary motion by said drive means.

Page 6, lines 16-18

77. The device of claim 67, wherein said form cutter comprises at least two milling surfaces for simultaneously creating at least two predetermined surface contours on an end plate of one of the adjacent vertebral bodies.

Fig. 2: 42, 44
Page 5, lines 10-16

78. The device of claim 67, wherein:

(a) said housing includes a smooth surface formed on a side of said housing opposite said milling surface; and

Fig. 2

(b) said smooth surface is configured to allow a surgeon to increase the pressure of said milling surface against the one of the adjacent vertebral bodies.

Fig. 2

79. The device of claim 67, wherein said form cutter includes a leading edge configured as a bone cutting surface.

Fig. 2: 44

80. The device of claim 68, wherein at least one of said at least two milling surfaces of said form is

Fig. 2: 42
page 5, lines 10-14

convex.

81. The device of claim 68, wherein at least one of said at least two milling surfaces of said form cutter is tapered outwardly from a front surface of said form cutter.

Fig. 2: 44
Page 5, line 15

82. A device for preparing a space in a human spine to receive an insert between adjacent vertebral bodies, said device comprising:

Page 4, lines 1-3

- (a) an elongated shaft portion;
- (b) a housing disposed at the distal end of said elongated shaft portion;
- (c) a drive means;
- (d) a drive source operably connected to said drive means;
- (e) a form cutter mountable on said housing and movable by said drive means, wherein:
- (f) said form cutter has at least one milling surface selected to create a predetermined surface contour in one of the adjacent vertebral bodies as said form cutter is moved by said drive means; and
- (g) said housing has a smooth surface formed on a side of said housing opposite said milling surface.

Fig. 2: 40

Figs. 1, 2: 31

Fig. 2: 24

Fig. 2: 61

Fig. 2: 29
page 6, lines 11-13

Fig. 2: 42
page 5, lines 10-14

Fig. 2

83. The device of claim 82, wherein said housing is fixedly connected to said elongated shaft portion.

Fig. 2
Page 5, lines 8-9

84. The device of claim 82, wherein:

- (a) said housing includes a shaft support; and
- (b) said form cutter includes a form cutter shaft configured to fit within said shaft support of said housing.

Fig. 2: 37

Fig. 2: 51
Page 5, lines 19-21

85. The device of claim 82, wherein said at least one milling surface is configured such that it is operated in a plane generally parallel to the surface contour formed in one of the adjacent vertebral bodies as said form cutter is moved by said drive means.

Page 7, lines 3-6
Fig. 2;
Page 5, lines 5-7 and
USP 5,674,296, Figs. 2, 3
(incorporated by reference)

86. The device of claim 82, wherein said housing includes:

- (a) an upstanding wall;
- (b) a shaft support; and
- (c) a slot configured through said upstanding wall through which said drive means is operatively coupled to said form cutter.

Fig. 2: 35

Fig. 2: 37

Fig. 2
Page 6, lines 11-15;
Fig. 3
Page 7, lines 13-18

87. The device of claim 82 including drive means that operatively couples said form cutter to said drive source.

Fig. 2: 24
Page 6, lines 19-20

88. The device of claim 87, wherein:

- (a) said drive means comprises a drive shaft having a proximal end and a distal end;
- (b) said drive shaft is adapted to be received in said elongated shaft portion;
- (c) the distal end of said drive shaft is

Fig. 2: 54

Fig. 2
Page 5, lines 8-10

Fig. 2

operatively coupled to said form cutter to move said form cutter; and

Page 6, lines 11-18

(d) the proximal end of said drive shaft is operatively coupled to said drive source.

Fig. 2
Page 6, lines 11-13

89. The device of claim 82, wherein said drive means is disposed at least in part in said elongated shaft portion.

Fig. 2
Page 5, lines 8-10

90. The device of claim 82, wherein:

(a) the device includes a drive shaft disposed within said elongated shaft portion;

Fig. 2: 54, 40;
Page 5, lines 8-10

(b) said drive shaft is rotatably driven by said drive source;

Page 5, lines 11-13, 16-18

(c) said drive shaft has a gear at its distal end; and

Fig 2: 59

(d) said gear is configured to mate with corresponding teeth on said form cutter.

Fig. 2: 57 & 59
Page 6, lines 13-18

91. The device of claim 90, wherein:

(a) said form cutter has at least one top milling surface and a bottom surface;

Fig. 2: 42, 47

(b) said bottom surface is provided with a beveled gearing surface;

Fig. 2: 47, 49
Page 6, lines 15-16

(c) said beveled gearing surface engages teeth on said gear; and

Fig. 2: 49, 59
Page 6, lines 16-18

(d) said gear and said beveled gearing surface cooperate to rotate said form cutter as said drive shaft is rotatably driven by said drive means.

Fig. 2
Page 6, lines 16-18

92. The device of claim 82, wherein said form

Page 6, lines 16-18

cutter is driven in rotary motion by said drive means.

93. The device of claim 82, wherein said form cutter comprises at least two milling surfaces for simultaneously creating at least two predetermined surface contours on an end plate of one of the adjacent vertebral bodies.

Fig. 2: 42, 44
Page 5, lines 10-16

94. The device of claim 93, wherein said form cutter includes a leading edge configured as a bone cutting surface.

Fig. 2: 44

95. The device of claim 93, wherein at least one of said at least two milling surfaces of said form is convex.

Fig. 2: 42
page 5, lines 10-14

96. The device of claim 93, wherein at least one of said at least two milling surfaces of said form cutter is tapered outwardly from a front surface of said form cutter.

Fig. 2: 44
Page 5, line 15

97. A device for preparing a space in a human spine to receive an insert between adjacent vertebral bodies, said device comprising:

Page 4, lines 1-3

- (a) an elongated shaft portion;
- (b) a housing disposed at the distal end of said elongated shaft portion;
- (c) a drive means;
- (d) a drive source operably connected to said drive means; and

Fig. 2: 40

Figs. 1, 2: 31

Fig. 2: 24

Fig. 2: 61

(e) a form cutter mountable on said housing and movable by said drive means, wherein:

Fig. 2: 29
Page 6, lines 11-13

(f) said form cutter has at least one milling surface selected to create a predetermined surface contour in one of the adjacent vertebral bodies as said form cutter is moved by said drive means.

Fig. 2: 42
Page 5, lines 10-14

98. The device of claim 97, wherein said form cutter has at least two milling surfaces.

Fig. 2: 42, 44

99. The device of claim 98, wherein said form cutter includes a leading edge configured as a bone cutting surface.

Fig. 2: 44

100. The device of claim 97, wherein said housing is fixedly connected to said elongated shaft portion.

Fig. 2
Page 5, lines 8-9

101. The device of claim 97, wherein:

(a) said housing includes a shaft support; and
(b) said form cutter includes a form cutter shaft configured to fit within said shaft support of said housing.

Fig. 2: 37
Fig. 2: 51
Page 5, lines 19-21

102. The device of claim 97, wherein said at least one milling surface is configured such that it is operated in a plane generally parallel to the surface contour formed in one of the adjacent vertebral bodies as said form cutter is moved by said drive means.

Page 7, lines 3-6
Fig. 2;
Page 5, lines 5-7 and
USP 5,674,296, Figs. 2, 3
(incorporated by reference)

103. The device of claim 97, wherein said housing includes:

- (a) an upstanding wall;
- (b) a shaft support; and
- (c) a slot configured through said upstanding wall through which said drive means is operatively coupled to said form cutter.

Fig. 2: 35

Fig. 2: 37

Fig. 2
Page 6, lines 11-15;
Fig. 3
Page 7, lines 13-18

104. The device of claim 97 including drive means that operatively couples said form cutter to said drive source.

Fig. 2: 24
Page 6, lines 19-20

105. The device of claim 104, wherein:

- (a) said drive means comprises a drive shaft having a proximal end and a distal end;
- (b) said drive shaft is adapted to be received in said elongated shaft portion;
- (c) the distal end of said drive shaft is operatively coupled to said form cutter to move said form cutter; and
- (d) the proximal end of said drive shaft is operatively coupled to said drive source.

Fig. 2: 54

Fig. 2
Page 5, lines 8-10

Fig. 2
Page 6, lines 11-18

Fig. 2
Page 6, lines 11-13

106. The device of claim 97, wherein said drive means is disposed at least in part in said elongated shaft portion.

Fig. 2
Page 5, lines 8-10

107. The device of claim 97, wherein:

- (a) the device includes a drive shaft disposed within said elongated shaft portion;
- (b) said drive shaft is rotatably driven by said

Fig. 2: 54, 40;
Page 5, lines 8-10
Page 5, lines 11-13, 16-18

drive source;

(c) said drive shaft has a gear at its distal end;
and

Fig 2: 59

(d) said gear is configured to mate with
corresponding teeth on said form cutter.

Fig. 2: 57 & 59
Page 6, lines 13-18

108. The device of claim 107, wherein:

(a) said form cutter has at least one top face
having first and second milling surfaces and a
bottom surface;

Fig. 2: 42, 47

(b) said bottom surface is provided with a
beveled gearing surface;

Fig. 2: 47, 49
Page 6, lines 15-16

(c) said beveled gearing surface engages teeth
on said gear; and

Fig. 2: 49, 59
Page 6, lines 16-18

(d) said gear and said beveled gearing surface
cooperate to rotate said form cutter as said drive
shaft is rotatably driven by said drive means.

Fig. 2
Page 6, lines 16-18

109. The device of claim 97, wherein said form
cutter is driven in rotary motion by said drive
means.

Page 6, lines 16-18

110. The device of claim 97, wherein said form
cutter comprises at least two milling surfaces for
simultaneously creating at least two predetermined
surface contours on an end plate of one of the
adjacent vertebral bodies.

Fig. 2: 42, 44
Page 5, lines 10-16

111. The device of claim 97, wherein said
housing includes a smooth surface formed on a side
of said housing opposite said milling surface, said

Fig. 2

smooth surface being configured to allow a surgeon to increase the pressure of said milling surface against the one of the adjacent vertebral bodies.

112. The device of claim 97, wherein at least one of said at least two milling surfaces of said form is convex.

Fig. 2: 42
page 5, lines 10-14

113. The device of claim 97, wherein at least one of said at least two milling surfaces of said form cutter is tapered outwardly from a front surface of said form cutter.

Fig. 2: 44
Page 5, line 15

114. A form cutter for preparing a space between adjacent vertebral bodies to receive an insert, said form cutter having:

Page 4, lines 10-12

(a) at least one milling surface and being mountable on a device capable of moving said form cutter to cause said at least one milling surface to create at least one surface having a predetermined contour in an end plate of at least one of the adjacent vertebral bodies;

Figs. 1 & 2

(b) said at least one milling surface having a width selected to substantially match the overall width of the insert to be received between the adjacent vertebral bodies;

Page 5, lines 10-14
U.S. Patent 5,674,296,
Incorporated by reference

(c) said at least one milling surface having a perimeter that is at least in part arcuate; and

Figs. 1 & 2: 29

(d) said form cutter having a leading edge configured to cut into the vertebral body as said form cutter is inserted into the spine.

Fig. 2: 44

115. The form cutter of claim 114, wherein said form cutter has a top surface and a bottom surface.

Fig. 2: 29, 47

116. The form cutter of claim 115, wherein at least one of said top surface and said bottom surface comprises at least one milling surface.

Fig. 2: 22

117. The form cutter of claim 115, wherein at least one of said top surface and said bottom surface of said form cutter comprises at least one milling surface that is convex.

Fig. 2: 42
Page 5, lines 10-14

118. The form cutter of claim 115, wherein at least one of said top surface and said bottom surface of said form cutter comprises at least one milling surface that is tapered outwardly from the front surface of said form cutter.

Fig. 2: 44
Page 5, line 15

119. The form cutter of claim 114, said at least one milling surface being configured and oriented such that it is generally parallel to the surface having a predetermined contour created in the end plate of the at least one of the adjacent vertebral bodies when in use.

Page 7, lines 3-6
Page 5, lines 5-7
U.S. Patent 5,674,296,
Incorporated by reference
Figs. 2, 3

120. A device for preparing a space in a human spine across a disc space and into the end plates of adjacent vertebral bodies to receive an interbody spinal insert, comprising:

Page 4, lines 1-3

(a) an elongated shaft portion;

Fig. 2: 40

(b) a housing disposed at the distal end of said elongated shaft portion;

Figs. 1, 2: 31

(c) a drive means;

Fig. 2: 24

(d) a drive source operably connected to said drive means;

Fig. 2: 61

(e) a form cutter mountable on said housing and movable by said drive means;

Fig. 2: 29
page 6, lines 11-13

(f) drive means that operatively couples said form cutter to said drive source to move said form cutter;

Fig. 2: 24
Page 6, lines 19-20

(g) said form cutter having a broad milling surface selected to remove bone from and create a predetermined surface contour in at least one of the end plates of the adjacent vertebral bodies as said form cutter is moved by said drive means in a plane generally parallel to the predetermined surface contour to be formed in said vertebral body;

Fig. 2: 42
Page 5, lines 10-14

(h) said form cutter being driven in rotary motion by said drive means; and

Page 7, lines 3-6
Fig. 2;
Page 5, lines 5-7 and
USP 5,674,296, Figs. 2, 3
(incorporated by reference)

(i) said milling surface being configured to substantially match in width and contour a surface of said interbody spinal insert.

Page 6, lines 16-18
Page 5, lines 10-14
Page 7, lines 3-6

121. A form cutter for preparing a space between adjacent vertebral bodies to receive an insert, said form cutter having:

Page 4, lines 10-12

(a) at least one top milling surface for removing bone;

Fig. 2: 42, 44

(b) A bottom surface opposite said at least one top milling surface adapted to mount on a device capable of moving said form cutter;

Fig. 2: 29, 47

(c) said at least one top milling surface of said moving form cutter being capable of removing bone from an end plate of at least one of said adjacent vertebral bodies to create at least one surface in said end plate having a predetermined contour;

Figs. 1 & 2
Page 4, lines 10-13
Page 5, lines 7-14

(d) said at least one top milling surface having a width selected to substantially match the overall width of said insert to be received between said adjacent vertebral bodies; and

Page 5, lines 10-14
U.S. Patent 5,674,296,
Incorporated by reference

(e) said form cutter having a leading edge configured to cut into the vertebral body as said form cutter is inserted into the spine.

Fig. 2: 44

122. The form cutter of claim 121, wherein said top surface of said form cutter is capable of milling bone.

Page 7, lines 4-6

123. The form cutter of claim 121, wherein at least one milling surface provided on said top surface of said form cutter is convex.

Fig. 2: 42
Page 5, lines 10-14

124. The form cutter of claim 121, wherein at least one milling surface provided on said top surface of said form cutter is tapered outwardly from the front surface of said form cutter.

Fig. 2: 44
Page 5, line 15

125. The form cutter of claim 121, wherein said at least one milling surface is configured and oriented such that it is generally parallel to the surface formed in said end plate of said vertebral

Page 7, lines 3-6
Page 5, lines 5-7
U.S. Patent 5,674,296,
Incorporated by reference
Figs. 2, 3

body when in use.

VI. 37 C.F.R. §1.607(a)(6)

The requirements of 35 U.S.C. § 135(b) are met because U.S. Patent 6,083,228 to Michelson issued on July 4, 2000.

Claims meet the requirement of 35 U.S.C. § 135(b) if they are present in an application on the anniversary date of the issuance of a patent, which in the present case is July 4, 2001. MPEP § 2307; *Switzer v. Sockman*, 333 F.2d 935, 142 U.S.P.Q. 226 (CCPA 1964).

Because July 4, 2001 was a Federal holiday in the District of Columbia, the time for presenting the present claims is extended until July 5, 2001. Pursuant to 37 C.F.R. §1.7(a):

When the day, or the last day fixed by statute or by or under this part for taking any action or paying any fee in the United States Patent and Trademark Office falls on Saturday, Sunday, or on a Federal holiday within the District of Columbia, the action may be taken, or the fee paid, on the next succeeding business day which is not a Saturday, Sunday, or a Federal holiday.

For this reason, this request under 37 C.F.R. §1.607(a) meets the timeliness requirement of 35 U.S.C. § 135(b).

VII. REQUEST FOR THE BENEFIT OF THE FILING DATES OF APPLICANTS' PRIORITY APPLICATIONS

Applicants claim priority under 35 U.S.C. § 120 based on application S.N. 08/944,234, which was filed on October 6, 1997. Applicants are entitled to the benefit of the filing dates of their earlier filed application for interference purposes if a count reads on at least one embodiment adequately disclosed in the earlier application.¹

Applicants respectfully submit that at least one embodiment encompassed by the proposed count is adequately disclosed by their prior application, because the present

¹ *Weil v. Fritz*, 572 F.2d 856, 865-66 n.16, 196 U.S.P.Q. 600, 608 n.16 (CCPA 1978).

37 C.F.R. §1.607 Request for an Interference with a Patent

application and all intervening applications were Continued Prosecution Applications under 37 C.F.R. §1.53(d).


Applicants respectfully submit that it is manifest that their originally filed application fully and adequately discloses numerous embodiments within the scope of the proposed count, and fully supports newly-presented claims 25 to 125 under 35 U.S.C. § 120, as shown by application Figs. 1, 2, and 3.

VIII. 37 C.F.R. §1.608

37 C.F.R. §1.608 does not apply, because the October 6, 1997, effective filing date of this application precedes the June 9, 1998 effective filing date of the Michelson patent.

For the foregoing reasons, Applicants respectfully submit that an interference should be declared, and that the party Bryan et al. should be the senior party in the requested interference.

Respectfully submitted,



Kenneth J. Burchfiel
Registration No. 31,333

SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, D.C. 20037
Telephone: 1-202-293-7060
Facsimile: 1-202-293-7860
E-mail: Kburchfiel@sughrue.com

7-6201



**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

cm

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

08/944,234

10/06/97

KUNZLER

A

P1178USA

EXAMINER

0812/0703

OBLON, SPIVAK, MCCLELLAND, MAIER AND NEU
1755 JEFFERSON DAVIS HIGHWAY
FOURTH FLOOR
ARLINGTON VA 22202

ART UNIT	PAPER NUMBER
----------	--------------

NGO.L

3727

DATE MAILED:

07/03/01



Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

RECEIVED
AUG 1 6 2001
TECHNOLOGY CENTER R3700

RECEIVED

JUL 0 6 2001

OBLON, SPIVAK, McCLELLAND
MAIER & NEUSTADT, P.C.

Notice of Abandonment

Application No.

08/944,234

Examiner

LIEN NGO

Applicant(s)

KUNZLER ET AL.

Art Unit

3737

The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

This application is abandoned in view of:

1. ☐ Applicant's failure to timely file a proper reply to the Office letter mailed on 05 July 2000.
- (a) ☐ A reply was received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the period for reply (including a total extension of time of _____ month(s)) which expired on _____.
- (b) ☐ A proposed reply was received on _____, but it does not constitute a proper reply under 37 CFR 1.113 (a) to the final rejection. (A proper reply under 37 CFR 1.113 to a final rejection consists only of: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114).
- (c) ☒ No reply has been received.
2. ☐ Applicant's failure to timely pay the required issue fee and publication fee, if applicable, within the statutory period of three months from the mailing date of the Notice of Allowance (PTOL-85).
- (a) ☐ The issue fee and publication fee, if applicable, was received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the statutory period for payment of the issue fee (and publication fee) set in the Notice of Allowance.
- (b) ☐ The submitted fee of \$_____ is insufficient. A balance of \$_____ is due.
The issue fee required by 37 CFR 1.18 is \$_____. The publication fee, if required by 37 CFR 1.18(d), is \$_____.
- (c) ☐ The issue fee and publication fee, if applicable, has not been received.
3. ☐ Applicant's failure to timely file new formal drawings as required by, and within the three-month period set in, the Notice of Allowability (PTO-37).
- (a) ☐ Proposed new formal drawings were received on _____ (with a Certificate of Mailing or Transmission dated _____), which is after the expiration of the period for reply.
- (b) ☐ The proposed new formal drawings filed on _____ are not acceptable and the period for reply has expired.
- (c) ☐ No proposed new formal drawings have been received.
4. ☐ The letter of express abandonment which is signed by the attorney or agent of record, the assignee of the entire interest, or all of the applicants.
5. ☐ The letter of express abandonment which is signed by an attorney or agent (acting in a representative capacity under 37 CFR 1.34(a)) upon the filing of a continuing application.
6. ☐ The decision by the Board of Patent Appeals and Interference rendered on _____ and because the period for seeking court review of the decision has expired and there are no allowed claims.
7. ☐ The reason(s) below:


Allan N. Shoap
Supervisory Patent Examiner
Group 3700

RECEIVED
AUG 16 2001
TECHNOLOGY CENTER R3700

Attachment for PTO-948 (Rev. 03/01, or earlier)
6/18/01

The below text replaces the pre-printed text under the heading, "Information on How to Effect Drawing Changes," on the back of the PTO-948 (Rev. 03/01, or earlier) form.



INFORMATION ON HOW TO EFFECT DRAWING CHANGES

1. Correction of Informalities -- 37 CFR 1.85

New corrected drawings must be filed with the changes incorporated therein. Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and centered within the top margin. If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings **MUST** be filed within the **THREE MONTH** shortened statutory period set for reply in the Notice of Allowability. Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136(a) or (b) for filing the corrected drawings after the mailing of a Notice of Allowability. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

2. Corrections other than Informalities Noted by Draftsperson on form PTO-948.

All changes to the drawings, other than informalities noted by the Draftsperson, **MUST** be made in the same manner as above except that, normally, a highlighted (preferably red ink) sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes.

Timing of Corrections

Applicant is required to submit the drawing corrections within the time period set in the attached Office communication. See 37 CFR 1.85(a).

Failure to take corrective action within the set period will result in **ABANDONMENT** of the application.

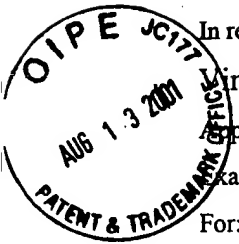
TECHNOLOGY CENTER R3700

AUG 16 2001

RECEIVED

58

FILING RECEIPT
PLEASE DATE STAMP AND RETURN TO US - BOX 235X



In re application of

Vincent BRYAN and Alex KUNZLER

Appl. No.: 08/944,234

Examiner: L. Ngo

Group Art Unit: 3731

Filed: October 6, 1997

For: DRILL HEAD FOR USE IN PLACING A VERTEBRAL BODY DISC DEVICE

PAPER(S) FILED ENTITLED:

1. Copy of Revocation and Appointment of Attorney with filing receipt of July 3, 2001;
2. Petition for an Extension of Time (5 months);
3. Continuation Prosecution Application;
4. Preliminary Amendment;
5. Request for an Interference with a Patent under 37 C.F.R. § 1.607;
6. Copy of U.S. Patent No. 6,083,228 (Michelson).

SUGHRUE, MION, ZINN,
MACPEAK & SEAS, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, D.C. 20037-3213
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

DOCKET NO.: A8038
ATTORNEY/SEC: KJB:hlb

Date Filed: July 5, 2001

RECEIVED

AUG 15 2001

OFFICE OF PETITIONS



RECEIVED
AUG 16 2001
TECHNOLOGY CENTER R3700



PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Vincent BRYAN and Alex KUNZLER

Appln. No. 08/944,234

Group Art Unit: 3731

RECEIVED

AUG 15 2001

OFFICE OF PETITIONS

Examiner: L. Ngo

Filed: October 6, 1997

For: DRILL HEAD FOR USE IN PLACING A VERTEBRAL BODY DISC DEVICE

PETITION FOR EXTENSION OF TIME UNDER 37 C.F.R. § 1.136

Commissioner for Patents
Washington, D.C. 20231

FILED

JUL - 5 2001

TECHNOLOGY CENTER R3700

AUG 16 2001

RECEIVED

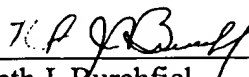
Sir:

Pursuant to 37 C.F.R. § 1.136, Applicants hereby petition for an extension of time of five months, extending the time for responding to the Notice of Appeal of December 21, 2000, from February 21, 2001 to July 21, 2001.

Please charge the small entity statutory fee of \$945.00 to Deposit Account 19-4880. Please charge any additional fees under 37 C.F.R. § 1.16 or § 1.17 necessary to keep this application pending in the Patent and Trademark Office or credit any overpayment to Deposit Account No. 19-4880. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

SUGHRUE, MION, ZINN,
MACPEAK & SEAS, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, D.C. 20037-3213
Telephone: (202) 293-7060
Facsimile: (202) 293-7860
Date: July 5, 2001


Kenneth J. Burchfiel
Registration No. 31,333



Sughrue

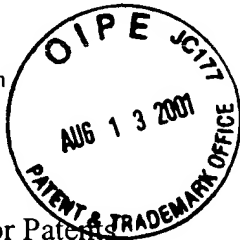
SUGHRUE MION ZINN MACPEAK & SEAS, PLLC

2100 Pennsylvania Avenue, NW
Washington, DC 20037-3213

T 202.293.7060
F 202.293.7860

www.sughrue.com

Kenneth J. Burchfiel
T 1-202-663-7941
kburchfiel@sughrue.com



July 5, 2001

BOX CPA

Commissioner for Patents
Washington, D.C. 20231

RECEIVED

AUG 15 2001

OFFICE OF PETITIONS

Re: Application of Vincent BRYAN and Alex KUNZLER
DRILL HEAD FOR USE IN PLACING A VERTEBRAL BODY DISC DEVICE
Our Ref: A8038

Dear Sir:

This is a request for filing a Continuation Application under 37 C.F.R. § 1.53(d) (continued prosecution application (CPA)) of pending prior Application No. 08/944,234 filed on October 6, 1997 of Vincent BRYAN and Alex KUNZLER entitled DRILL HEAD FOR USE IN PLACING A VERTEBRAL BODY DISC DEVICE.

This application is being filed under 37 CFR § 1.53(d). The prior application, in which no payment of the issue fee, abandonment, or termination of proceedings has occurred, is hereby expressly abandoned as of the filing date of this new application. It is understood that secrecy under 35 USC § 122 is hereby waived to the extent that if information or access is available to any one of the applications in the file jacket, be it either this application or a prior application in the same file jacket, the Patent and Trademark Office may provide similar information or access to all the other applications in the same file jacket.

The prior application is assigned to Group Art Unit 3731

A Preliminary Amendment and a Request for an Interference with a Patent under 37 C.F.R. § 1.607 is being submitted herewith.

There is no claim to priority.

Applicants claim benefit of small entity status in accordance with 37 CFR § 1.27.

FILED
JUL 5 2001

TECHNOLOGY CENTER 3731

AUG 6 2001

RECEIVED



Sughrue

SUGHRUE MION ZINN MACPEAK & SEAS, PLLC

CPA of USSN 08/944,234

July 5, 2001

The Government filing fee is calculated as follows:

Total claims	<u>125</u>	-	20	=	<u>105</u>	x	\$9.00	=	<u>\$945.00</u>
Independent claims	<u>14</u>	-	3	=	<u>11</u>	x	\$40.00	=	<u>\$440.00</u>
Base Fee									\$480.00

TOTAL FILING FEE

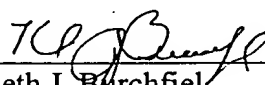
\$1865.00

Please charge Deposit Account No. 19-4880 \$1865.00 for the small entity statutory fees. You are also directed and authorized to charge or credit any difference or overpayment to Deposit Account No. 19-4880. The Commissioner is hereby authorized to charge any fees under 37 C.F.R. §§ 1.16 and 1.17 and any petitions for extension of time under 37 C.F.R. § 1.136 which may be required during the entire pendency of the application to Deposit Account No. 19-4880. A duplicate copy of this transmittal letter is attached.

A Petition and payment for an extension of time is being filed concurrently herewith in Application No. 08/944,234. The application is timely filed.

Respectfully submitted,

SUGHRUE, MION, ZINN, MACPEAK
& SEAS, PLLC


Kenneth J. Burchfiel
Registration No. 31,333

RECEIVED
AUG 15 2001
OFFICE OF PETITIONS

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

In re application of

Docket No: A8038

Inventor: Vincent BRYAN and Alex KUNZLER

App. No. 08/944,234

Group Art Unit: 3731

Examiner: L. Ngo

Filed: October 6, 1997

For: DRILL HEAD FOR USE IN PLACING A VERTEBRAL BODY DISC DEVICE

PRELIMINARY AMENDMENT

Assistant Commission of Patents
Washington, D.C. 20231

Dear Sir:

Prior to examination, please amend the application as follows:

RECEIVED

AUG 15 2001

OFFICE OF PETITIONS

IN THE CLAIMS

Please add the following new claims 25-125 as follows:

--25. A device for preparing a space in a human spine to receive an insert between adjacent vertebral bodies, said device comprising:

- (a) an elongated shaft portion;
- (b) a housing disposed at the distal end of said elongated shaft portion;
- (c) a drive means;
- (d) a drive source operably connected to said drive means; and
- (e) a form cutter mountable on said housing and movable by said drive means, wherein:
- (f) said form cutter has at least one milling surface selected to create a surface contour in one of the adjacent vertebral bodies as said form cutter is moved by said drive means.

26. The device of claim 25, wherein said housing is fixedly connected to said elongated shaft portion.

27. The device of claim 25, wherein:

- (a) said housing includes a shaft support; and

RECEIVED
AUG 16 2001
TECHNOLOGY CENTER R3700

(b) said form cutter includes a form cutter shaft configured to fit within said shaft support of said housing.

28. The device of claim 25, wherein said at least one milling surface is configured such that it is operated in a plane generally parallel to the surface contour formed in one of the adjacent vertebral bodies as said form cutter is moved by said drive means.

29. The device of claim 25, wherein said housing includes:

- (a) an upstanding wall;
- (b) a shaft support; and
- (c) a slot configured through said upstanding wall through which said drive means is operatively coupled to said form cutter.

30. The device of claim 25 including drive means that operatively couples said form cutter to said drive source.

31. The device of claim 30, wherein:

- (a) said drive means comprises a drive shaft having a proximal end and a distal end;
- (b) said drive shaft is adapted to be received in said elongated shaft portion;
- (c) the distal end of said drive shaft is operatively coupled to said form cutter to move said form cutter; and
- (d) the proximal end of said drive shaft is operatively coupled to said drive source.

32. The device of claim 25, wherein said drive means is disposed at least in part in said elongated shaft portion.

33. The device of claim 25, wherein:

- (a) the device includes a drive shaft disposed within said elongated shaft portion;
- (b) said drive shaft is rotatably driven by said drive source;
- (c) said drive shaft has a gear at its distal end; and

(d) said gear is configured to mate with corresponding teeth on said form cutter.

34. The device of claim 33, wherein:

- (a) said form cutter includes at least one top milling surface and a bottom surface;
- (b) said bottom surface is provided with a beveled gearing surface;
- (c) said beveled gearing surface engages teeth on said gear; and
- (d) said gear and said beveled gearing surface cooperate to rotate said form cutter as said drive shaft is rotatably driven.

35. The device of claim 25, wherein said form cutter is driven in rotary motion by said drive means.

36. The device of claim 25, wherein said form cutter comprises at least two milling surfaces for simultaneously creating at least two predetermined surface contours on an end plate of one of the adjacent vertebral bodies.

37. The device of claim 25, wherein:

- (a) said housing includes a smooth surface formed on a side of said housing opposite said milling surface; and
- (b) said smooth surface is configured to allow a surgeon to increase the pressure of said milling surface against the one of the adjacent vertebral bodies.

38. The device of claim 25, wherein said form cutter includes a leading edge configured as a bone cutting surface.

39. The device of claim 36, wherein at least one of said at least two milling surfaces of said form is convex.

40. The device of claim 36, wherein at least one of said at least two milling surfaces of said form cutter is tapered outwardly from a front surface of said form cutter.

41. A form cutter for preparing a space between adjacent vertebral bodies to receive an insert, said form cutter having:

- (a) at least one milling surface and being mountable on a device capable of moving said form cutter to cause said at least one milling surface to create at least one surface having a predetermined contour in an end plate of at least one of the adjacent vertebral bodies,
- (b) said at least one milling surface having a width selected to substantially match the overall width of the insert to be received between the adjacent vertebral bodies,
- (c) said at least one milling surface being configured and oriented such that it is generally parallel to the surface having a predetermined contour created in the end plate of the adjacent vertebral body when in use.

42. The form cutter of claim 41, wherein said form cutter has a top surface and a bottom surface.

43. The form cutter of claim 42, wherein at least one of said top surface and said bottom surface is a milling surface.

44. The form cutter of claim 41, wherein said form cutter has a leading edge configured to cut into the vertebral body as said form cutter is inserted into the spine.

45. The form cutter of claim 42, wherein at least one of said top surface and said bottom surface of said form cutter comprises a convex surface.

46. The form cutter of claim 42, wherein at least one area of said top surface and said bottom surface of said form cutter is tapered outwardly from the front surface of said form cutter.

47. A device for preparing a space in a human spine across a disc space and into the end plates of adjacent vertebral bodies to receive an interbody spinal insert, said device comprising:

- (a) an elongated shaft portion;
- (b) a housing disposed at the distal end of said elongated shaft portion;
- (c) a drive means;

- (d) a drive source for powering said drive means;
- (e) a form cutter mountable on said housing; and
- (f) a coupling means for connecting and imparting motion from said drive means to said form cutter,

wherein:

- (g) said form cutter has at least one broad milling surface selected to remove bone from and create a predetermined surface contour in at least one of the end plates of the adjacent vertebral bodies as said form cutter is moved by said drive means; and
- (h) said milling surface is configured to substantially match in width and contour a surface of the interbody spinal insert and the predetermined surface contour in at least one of the end plates of the adjacent vertebral bodies.

48. The device of claim 47, wherein:

- (a) said drive means moves said form cutter in a plane generally parallel to the predetermined surface contour to be formed in at least one of the end plates of the adjacent vertebral bodies; and
- (b) the movement of said form cutter is rotary.

49. A device for preparing a space to receive an interbody insert within and between the adjacent surfaces of vertebral bodies disposed adjacent a disc space, said device comprising:

- (a) an elongated shaft containing at least a portion of a drive means;
- (b) a housing positioned at the distal end of said elongated shaft portion; and
- (c) a form cutter disposed on said housing and operably connected to said drive means to be driven thereby,

wherein:

- (d) said form cutter has a milling surface;
- (e) said milling surface has a width substantially the same as the width of the insert to be implanted;
- (f) said milling surface has a configuration adapted to remove bone from the vertebral bodies to prepare the vertebral bodies to receive the insert; and
- (g) said milling surface of said form cutter is configured to be generally parallel to a receiving

surface that is formed on one of the vertebral bodies by said device.

50. The device of claim 49, wherein said form cutter includes first and second outwardly facing milling surfaces.

51. The device of claim 49, wherein the width of said milling surface substantially matches the width of the nucleus pulposus of a disc space in which said milling surface is inserted.

52. The device of claim 49, wherein said form cutter has at least one milling surface having a convex configuration.

53. The device of claim 49, wherein:

- (a) said form cutter includes outwardly facing first and second milling surfaces; and
- (b) said outwardly facing first and second milling surfaces are inclined relative to one another.

54. The device of claim 50, wherein said outwardly facing first and second milling surfaces are inclined with respect to each other.

55. The device of claim 49, wherein said drive means is adapted to produce a rotary movement of said form cutter about an axis generally perpendicular to a longitudinal axis of said elongated shaft portion and a general plane of the vertebral end plate.

56. The device of claim 49, wherein said drive means is powered by a drive source.

57. The device of claim 49, wherein said housing has a surface opposite said milling surface of said form cutter for bearing against the vertebral body on the opposite side of the disc space.

58. The device of claim 57, wherein said bearing surface is smooth.

59. The device of claim 49, wherein said device is sterilizable for use in surgery.

60. The device of claim 49, wherein said form cutter is detachable from said housing.
61. The device of claim 49, including a rotatable drive shaft disposed within said elongated shaft portion, said rotatable drive shaft being operably connected to said drive means and to said form cutter.
62. A method for preparing the disc space between adjacent vertebrae of a human spine to receive an insert therebetween, said method being performed with a device having a movable form cutter with a milling surface that has a width substantially the same as the width of the insert to be implanted between the adjacent vertebrae, said method comprising the steps of:
- (a) activating the device to cause the milling surface to move;
 - (b) inserting the milling surface into the space between the adjacent vertebrae;
 - (c) contacting the milling surface of the form cutter against at least one of the adjacent vertebrae to remove bone from the end plate of the vertebra that lies adjacent the disc space to form a surface of that vertebra, the surface of that vertebra having a contour that substantially matches the contour of a surface of the insert to be implanted and that substantially matches the contour of the milling surface; and
 - (d) moving the milling surface of the form cutter in a rotary fashion relative to said device in a plane generally parallel to the surface contour to be formed in at least one of the adjacent vertebral bodies.
63. The method of claim 62, wherein the form cutter includes first and second outwardly facing milling surfaces.
64. The method of claim 63, wherein the device is not activated until after the milling surface has been inserted into the space between the adjacent vertebrae.
65. The method of claim 62, including the steps of:
- (a) measuring the width of the desired space to be formed between the adjacent vertebrae; and
 - (b) selecting a form cutter and corresponding milling surface that matches the measured width.

66. The method of claim 63, including the further steps of:
- (a) removing the milling surface from the disc space after completing the contacting step; and then
 - (b) positioning an insert into the space created between the adjacent vertebrae.
67. A device for preparing a space in the human spine to receive an insert between adjacent vertebral bodies, said device comprising:
- (a) an elongated shaft portion;
 - (b) a housing disposed at the distal end of said elongated shaft portion;
 - (c) a drive means;
 - (d) a drive source operably connected to said drive means;
 - (e) a form cutter mountable on said housing and movable by said drive means;
 - (f) said form cutter having at least one milling surface selected to create a predetermined surface contour in one of the adjacent vertebral bodies as said form cutter is moved by said drive means;
 - (g) said drive means including a drive shaft disposed within said elongated shaft portion;
 - (h) said drive shaft being rotatably driven by said drive means; and
 - (i) said drive shaft being operably coupled to said form cutter.
68. The device of claim 67, wherein
- (a) said form cutter includes first and second milling surfaces;
 - (b) said drive shaft has a gear at its distal end
 - (c) said gear is configured to engage corresponding teeth on said form cutter;
 - (d) said gear and said teeth are configured such that said form cutter having said first and second milling surfaces is rotated as said drive shaft is rotated by said drive means.
69. The device of claim 67, wherein said housing is fixedly connected to said elongated shaft portion.
70. The device of claim 67, wherein:

- (a) said housing includes a shaft support; and
- (b) said form cutter includes a form cutter shaft configured to fit within said shaft support of said housing.

71. The device of claim 67, wherein said at least one milling surface is configured such that it is operated in a plane generally parallel to the surface contour formed in one of the adjacent vertebral bodies as said form cutter is moved by said drive means.

72. The device of claim 67, wherein said housing includes:

- (a) an upstanding wall;
- (b) a shaft support; and
- (c) a slot configured through said upstanding wall through which said drive means is operatively coupled to said form cutter.

73. The device of claim 67 including drive means that operatively couples said form cutter to said drive source.

74. The device of claim 73, wherein:

- (a) said drive means comprises a drive shaft having a proximal end and a distal end;
- (b) said drive shaft is adapted to be received in said elongated shaft portion;
- (c) the distal end of said drive shaft is operatively coupled to said form cutter to move said form cutter; and
- (d) the proximal end of said drive shaft is operatively coupled to said drive source.

75. The device of claim 67, wherein said drive means is disposed at least in part in said elongated shaft portion.

76. The device of claim 67, wherein said form cutter is driven in rotary motion by said drive means.

77. The device of claim 67, wherein said form cutter comprises at least two milling surfaces for simultaneously creating at least two predetermined surface contours on an end plate of one of the adjacent vertebral bodies.

78. The device of claim 67, wherein:

- (a) said housing includes a smooth surface formed on a side of said housing opposite said milling surface; and
- (b) said smooth surface is configured to allow a surgeon to increase the pressure of said milling surface against the one of the adjacent vertebral bodies.

79. The device of claim 67, wherein said form cutter includes a leading edge configured as a bone cutting surface.

80. The device of claim 68, wherein at least one of said at least two milling surfaces of said form is convex.

81. The device of claim 68, wherein at least one of said at least two milling surfaces of said form cutter is tapered outwardly from a front surface of said form cutter.

82. A device for preparing a space in a human spine to receive an insert between adjacent vertebral bodies, said device comprising:

- (a) an elongated shaft portion;
- (b) a housing disposed at the distal end of said elongated shaft portion;
- (c) a drive means;
- (d) a drive source operably connected to said drive means;
- (e) a form cutter mountable on said housing and movable by said drive means, wherein:
- (f) said form cutter has at least one milling surface selected to create a predetermined surface contour in one of the adjacent vertebral bodies as said form cutter is moved by said drive means; and
- (g) said housing has a smooth surface formed on a side of said housing opposite said milling surface.

83. The device of claim 82, wherein said housing is fixedly connected to said elongated shaft portion.

84. The device of claim 82, wherein:

- (a) said housing includes a shaft support; and
- (b) said form cutter includes a form cutter shaft configured to fit within said shaft support of said housing.

85. The device of claim 82, wherein said at least one milling surface is configured such that it is operated in a plane generally parallel to the surface contour formed in one of the adjacent vertebral bodies as said form cutter is moved by said drive means.

86. The device of claim 82, wherein said housing includes:

- (a) an upstanding wall;
- (b) a shaft support; and
- (c) a slot configured through said upstanding wall through which said drive means is operatively coupled to said form cutter.

87. The device of claim 82 including drive means that operatively couples said form cutter to said drive source.

88. The device of claim 87, wherein:

- (a) said drive means comprises a drive shaft having a proximal end and a distal end;
- (b) said drive shaft is adapted to be received in said elongated shaft portion;
- (c) the distal end of said drive shaft is operatively coupled to said form cutter to move said form cutter; and
- (d) the proximal end of said drive shaft is operatively coupled to said drive source.

89. The device of claim 82, wherein said drive means is disposed at least in part in said elongated shaft portion.

90. The device of claim 82, wherein:
- (a) the device includes a drive shaft disposed within said elongated shaft portion;
 - (b) said drive shaft is rotatably driven by said drive source;
 - (c) said drive shaft has a gear at its distal end; and
 - (d) said gear is configured to mate with corresponding teeth on said form cutter.
91. The device of claim 90, wherein:
- (a) said form cutter has at least one top milling surface and a bottom surface;
 - (b) said bottom surface is provided with a beveled gearing surface;
 - (c) said beveled gearing surface engages teeth on said gear; and
 - (d) said gear and said beveled gearing surface cooperate to rotate said form cutter as said drive shaft is rotatably driven by said drive means.
92. The device of claim 82, wherein said form cutter is driven in rotary motion by said drive means.
93. The device of claim 82, wherein said form cutter comprises at least two milling surfaces for simultaneously creating at least two predetermined surface contours on an end plate of one of the adjacent vertebral bodies.
94. The device of claim 93, wherein said form cutter includes a leading edge configured as a bone cutting surface.
95. The device of claim 93, wherein at least one of said at least two milling surfaces of said form is convex.
96. The device of claim 93, wherein at least one of said at least two milling surfaces of said form cutter is tapered outwardly from a front surface of said form cutter.
97. A device for preparing a space in a human spine to receive an insert between adjacent

vertebral bodies, said device comprising:

- (a) an elongated shaft portion;
- (b) a housing disposed at the distal end of said elongated shaft portion;
- (c) a drive means;
- (d) a drive source operably connected to said drive means; and
- (e) a form cutter mountable on said housing and movable by said drive means, wherein:
- (f) said form cutter has at least one milling surface selected to create a predetermined surface contour in one of the adjacent vertebral bodies as said form cutter is moved by said drive means.

98. The device of claim 97, wherein said form cutter has at least two milling surfaces.

99. The device of claim 98, wherein said form cutter includes a leading edge configured as a bone cutting surface.

100. The device of claim 97, wherein said housing is fixedly connected to said elongated shaft portion.

101. The device of claim 97, wherein:

- (a) said housing includes a shaft support; and
- (b) said form cutter includes a form cutter shaft configured to fit within said shaft support of said housing.

102. The device of claim 97, wherein said at least one milling surface is configured such that it is operated in a plane generally parallel to the surface contour formed in one of the adjacent vertebral bodies as said form cutter is moved by said drive means.

103. The device of claim 97, wherein said housing includes:

- (a) an upstanding wall;
- (b) a shaft support; and
- (c) a slot configured through said upstanding wall through which said drive means is operatively

coupled to said form cutter.

104. The device of claim 97 including drive means that operatively couples said form cutter to said drive source.

105. The device of claim 104, wherein:

- (a) said drive means comprises a drive shaft having a proximal end and a distal end;
- (b) said drive shaft is adapted to be received in said elongated shaft portion;
- (c) the distal end of said drive shaft is operatively coupled to said form cutter to move said form cutter; and
- (d) the proximal end of said drive shaft is operatively coupled to said drive source.

106. The device of claim 97, wherein said drive means is disposed at least in part in said elongated shaft portion.

107. The device of claim 97, wherein:

- (a) the device includes a drive shaft disposed within said elongated shaft portion;
- (b) said drive shaft is rotatably driven by said drive source;
- (c) said drive shaft has a gear at its distal end; and
- (d) said gear is configured to mate with corresponding teeth on said form cutter.

108. The device of claim 107, wherein:

- (a) said form cutter has at least one top face having first and second milling surfaces and a bottom surface;
- (b) said bottom surface is provided with a beveled gearing surface;
- (c) said beveled gearing surface engages teeth on said gear; and
- (d) said gear and said beveled gearing surface cooperate to rotate said form cutter as said drive shaft is rotatably driven by said drive means.

109. The device of claim 97, wherein said form cutter is driven in rotary motion by said drive

means.

110. The device of claim 97, wherein said form cutter comprises at least two milling surfaces for simultaneously creating at least two predetermined surface contours on an end plate of one of the adjacent vertebral bodies.

111. The device of claim 97, wherein said housing includes a smooth surface formed on a side of said housing opposite said milling surface, said smooth surface being configured to allow a surgeon to increase the pressure of said milling surface against the one of the adjacent vertebral bodies.

112. The device of claim 97, wherein at least one of said at least two milling surfaces of said form is convex.

113. The device of claim 97, wherein at least one of said at least two milling surfaces of said form cutter is tapered outwardly from a front surface of said form cutter.

114. A form cutter for preparing a space between adjacent vertebral bodies to receive an insert, said form cutter having:

- (a) at least one milling surface and being mountable on a device capable of moving said form cutter to cause said at least one milling surface to create at least one surface having a predetermined contour in an end plate of at least one of the adjacent vertebral bodies;
- (b) said at least one milling surface having a width selected to substantially match the overall width of the insert to be received between the adjacent vertebral bodies;
- (c) said at least one milling surface having a perimeter that is at least in part arcuate; and
- (d) said form cutter having a leading edge configured to cut into the vertebral body as said form cutter is inserted into the spine.

115. The form cutter of claim 114, wherein said form cutter has a top surface and a bottom surface.

116. The form cutter of claim 115, wherein at least one of said top surface and said bottom surface comprises at least one milling surface.

117. The form cutter of claim 115, wherein at least one of said top surface and said bottom surface of said form cutter comprises at least one milling surface that is convex.

118. The form cutter of claim 115, wherein at least one of said top surface and said bottom surface of said form cutter comprises at least one milling surface that is tapered outwardly from the front surface of said form cutter.

119. The form cutter of claim 114, said at least one milling surface being configured and oriented such that it is generally parallel to the surface having a predetermined contour created in the end plate of the at least one of the adjacent vertebral bodies when in use.

120. A device for preparing a space in a human spine across a disc space and into the end plates of adjacent vertebral bodies to receive an interbody spinal insert, comprising:

- (a) an elongated shaft portion;
- (b) a housing disposed at the distal end of said elongated shaft portion;
- (c) a drive means;
- (d) a drive source operably connected to said drive means;
- (e) a form cutter mountable on said housing and movable by said drive means;
- (f) drive means that operatively couples said form cutter to said drive source to move said form cutter;
- (g) said form cutter having a broad milling surface selected to remove bone from and create a predetermined surface contour in at least one of the end plates of the adjacent vertebral bodies as said form cutter is moved by said drive means in a plane generally parallel to the predetermined surface contour to be formed in said vertebral body;
- (h) said form cutter being driven in rotary motion by said drive means; and
- (i) said milling surface being configured to substantially match in width and contour a surface of said interbody spinal insert.

121. A form cutter for preparing a space between adjacent vertebral bodies to receive an insert, said form cutter having:

- (a) at least one top milling surface for removing bone;
- (b) A bottom surface opposite said at least one top milling surface adapted to mount on a device capable of moving said form cutter;
- (c) said at least one top milling surface of said moving form cutter being capable of removing bone from an end plate of at least one of said adjacent vertebral bodies to create at least one surface in said end plate having a predetermined contour;
- (d) said at least one top milling surface having a width selected to substantially match the overall width of said insert to be received between said adjacent vertebral bodies; and
- (e) said form cutter having a leading edge configured to cut into the vertebral body as said form cutter is inserted into the spine.

122. The form cutter of claim 121, wherein said top surface of said form cutter is capable of milling bone.

123. The form cutter of claim 121, wherein at least one milling surface provided on said top surface of said form cutter is convex.

124. The form cutter of claim 121, wherein at least one milling surface provided on said top surface of said form cutter is tapered outwardly from the front surface of said form cutter.

125. The form cutter of claim 121, wherein said at least one milling surface is configured and oriented such that it is generally parallel to the surface formed in said end plate of said vertebral body when in use.--

REMARKS

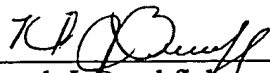
Claims 1-125 are in consideration. Newly-presented Claims 25 to 125 are submitted in support of Applicants' accompanying Request for an Interference With a Patent Under 37 C.F.R. §1.607, submitted herewith. Applicants request that an interference be declared between the present application and U.S. Patent 6,083,228 (Michelson), which is of record. A copy of the Michelson '228 patent is attached for the convenience of the Examiner.

Applicants respectfully submit that each of newly presented Claims 25 to 125 is fully supported by the disclosure of the present specification and drawings, as demonstrated in detail in the accompanying request under 37 C.F.R. §1.607, § V. If it would be helpful to the Examiner, Applicants invite the Examiner to contact the undersigned attorney of record to discuss the present amendment and the request for interference.

For the convenience of the Examiner, a copy of the power appointing the undersigned to represent applicants, which was filed in the present application on July 3, 2001, is enclosed. Applicants also attach a copy of U.S. Patent 5,674,296, which is incorporated by reference in the present specification, for the Examiner's convenience.

Early consideration and allowance is respectfully requested.

Respectfully submitted,



Kenneth J. Burchfiel
Registration No. 31,333

SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, D.C. 20037
Telephone: 1-202-293-7060
Facsimile: 1-202-293-7860
E-mail: Kburchfiel@sughrue.com

APPENDIX

IN THE CLAIMS

Claims 25-125 are added as new claims.

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

BRYAN, VINCENT, et al.

Appln. No. 08/944,234

Examiner: L. Ngo



Docket No: A8038

Group Art Unit: 3731

Filed: October 6, 1997

RECEIVED

AUG 15 2001

OFFICE OF PETITIONS

For: DRILL HEAD FOR USE IN PLACING AN INTERVERTEBRAL DISC DEVICE

SUBMISSION OF REVOCATION AND APPOINTMENT OF ATTORNEY

Commissioner of Patents
Washington, D.C. 20231

FILED

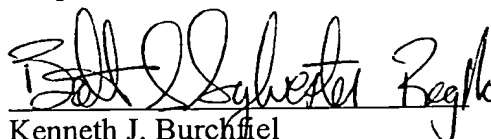
JUL - 3 2001

Sir:

Filed concurrently herewith is a Revocation and Appointment of Attorney in which Applicants revoke all previous powers of attorney and name the partners of the firm of SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC, including the undersigned attorney(s) with power of attorney to prosecute the above-identified application and to transact all business in the Patent and Trademark Office connected therewith.

Please direct phone calls to Kenneth J. Burchfiel at (202) 293-7060.

Respectfully submitted,


for Kenneth J. Burchfiel
Registration No. 31,333
Reg No 32,765

SUGHRUE, MION, ZINN,
MACPEAK & SEAS, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, D.C. 20037-3213
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

Date: July 3, 2001

RECEIVED
AUG 16 2001
TECHNOLOGY CENTER R3700

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

BRYAN, VINCENT, et al

Appln. No.: 08/944,234

Examiner: L. Ngo



Group Art Unit: 3731

Filed: October 6, 1997

RECEIVED

AUG 15 2001

OFFICE OF PETITIONS

For: DRILL HEAD FOR USE IN PLACING AN INTERVERTEBRAL DISC DEVICE

REVOCATION AND APPOINTMENT OF ATTORNEYS

Commissioner for Patents
Washington, D.C. 20231

Sir:

Vincent Bryan and Alex Kunzler, the inventors of the present application hereby revoke all prior powers of attorney and appoint John H. Mion, Reg. No. 18,879; Thomas J. Macpeak, Reg. No. 19,292; Robert J. Seas, Jr., Reg. No. 21,092; Darryl Mexic, Reg. No. 23,063; Robert V. Sloan, Reg. No. 22,775; Peter D. Olexy, Reg. No. 24,513; J. Frank Osha, Reg. No. 24,625; Waddell A. Biggart, Reg. No. 24,861; Louis Gubinsky, Reg. No. 24,835; Neil B. Siegel, Reg. No. 25,200; David J. Cushing, Reg. No. 28,703; John R. Inge, Reg. No. 25,916; Joseph J. Ruch, Jr., Reg. No. 26,577; Sheldon I. Landsman, Reg. No. 25,430; Richard C. Turner, Reg. No. 29,710; Howard L. Bernstein, Reg. No. 25,665; Alan J. Kasper, Reg. No. 25,426; Kenneth J. Burchfiel, Reg. No. 31,333; Gordon Kit, Reg. No. 30,764; Susan J. Mack, Reg. No. 30,951; Frank L. Bernstein, Reg. No. 31,484; Mark Boland, Reg. No. 32,197; William H. Mandir, Reg. No. 32,156; Brian W. Hannon, Reg. No. 32,778; Abraham J. Rosner, Reg. No. 33,276; Bruce E. Kramer, Reg. No. 33,725; Paul F. Neils, Reg. No. 33,102; Brett S. Sylvester, Reg. No. 32,765; Robert M. Masters, Reg. No. 35,603; George F. Lehnigk, Reg. No. 36,359; John T. Callahan, Reg. No. 32,607; Steven M. Gruskin, Reg. No. 36,818; Peter A. McKenna, Reg. No. 38,551 and Edward F. Kenehan, Reg. No. 28,962, their attorneys to prosecute this application and to transact all business in the United States Patent and Trademark Office connected therewith, and request that all correspondence about the application be addressed to:

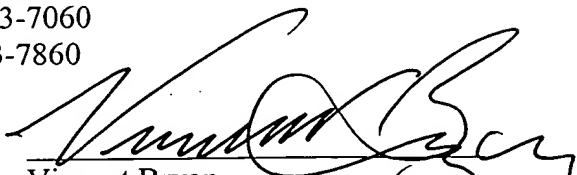
RECEIVED
AUG 16 2001
TECHNOLOGY CENTER

RECEIVED

REVOCATION AND APPOINTMENT OF ATTORNEYS
USSN 08/944,234

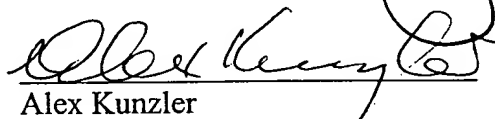
SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, D.C. 20037-3213
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

Date: 6-27-01



Vincent Bryan

Date: 6-27-01



Alex Kunzler

NOTICE OF APPEAL FROM THE PRIMARY EXAMINER
TO THE BOARD OF PATENT APPEALS AND INTERFERENCES

APPLICANT(s): Kunzler et al. DOCKET NO.: 072496.00003
SERIAL NO.: 08/ 944,234 GROUP ART UNIT: 3731
FILED: October 6, 1997 EXAMINER: L. Ngo
INVENTION: "DRILL HEAD FOR USE IN PLACING AN
INTERVERTEBRAL DISC DEVICE"

NOTICE OF APPEAL
AND REQUEST FOR EXTENSION OF TIME

Applicants hereby appeal to the Board of Appeals from the decision of the
Primary Examiner, mailed July 5, 2000, finally rejecting claims 1-24.

This application is on behalf of a small entity. A small entity statement
was filed in the prior and non-provisional application, and such status
proper and desired.

Pursuant to 37 CFR 1.17 (b), the fee for filing the Notice of Appeal is
\$155.00.

Applicants petition for a three-month extension of time under 37 CFR
1.136 in which to file this Notice of Appeal. In accordance with 37 CFR
1.17(a)(3), the fee for this extension is \$445.00.

A check in the amount of \$600.00, comprising the fee for the Notice of
Appeal, and the fee for the extension of time, accompanies this Notice of Appeal
And Request for Extension of Time.

12/21/2000 SLUANG1 00000132 08944234

01 FC:219
02 FC:217

155.00 OP
445.00 OP

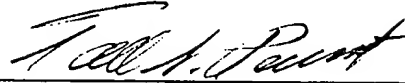
RECEIVED
AUG 15 2001
OFFICE OF PETITIONS

RECEIVED
DEC 26 2000
MAIL ROOM

RECEIVED
AUG 16 2001
TECHNOLOGY CENTER R3700



Respectfully submitted,



(Reg. #26,494)

Todd S. Parkhurst
HOLLAND & KNIGHT LLP
55 West Monroe Street
Suite 800
Chicago, Illinois 60603
Tel: (312) 578-6694
Attorney for Applicants

RECEIVED

AUG 15 2001

OFFICE OF PETITIONS

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the
United States Postal Service as First Class Mail in an envelope addressed to:

BOX AF
Commissioner For Patents
Washington, D.C. 20231

DATE: December 18, 2000


Attorney for Applicants

CHI1 #92058 v1